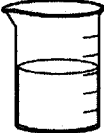
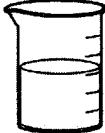





Laboratory Questions

1. Consider five unlabeled bottles, each containing 5.0 g of one of the following pure salts.



- (a) Identify the salt that can be distinguished by its appearance alone. Describe the observation that supports your identification.
- (b) Identify the salt that can be distinguished by adding 10 mL of H_2O to a small sample of each of the remaining unidentified salts. Describe the observation that supports your identification.
- (c) Identify a chemical reagent that could be added to the salt identified in part (b) to confirm the salt's identity. Describe the observation that supports your confirmation.
- (e) Identify the salt that can be distinguished by adding 1.0 M Na_2SO_4 to a small sample of each of the remaining unidentified salts. Describe the observation that supports your identification.

Solution 1	Solution 2	Solution 3	Solution 4	Solution 5
				
0.10 M $\text{Pb}(\text{NO}_3)_2$	0.10 M NaCl	0.10 M KMnO_4	0.10 M $\text{C}_2\text{H}_5\text{OH}$	0.10 M $\text{KC}_2\text{H}_3\text{O}_2$

2. Answer the questions below that relate to the five aqueous solutions at 25°C shown above.

(a) Which solution has the highest boiling point? Explain.

(b) Which solution has the highest pH? Explain.

(c) Identify a pair of the solutions that would produce a precipitate when mixed together. Write the formula of the precipitate.

(d) Which solution could be used to oxidize the $\text{Cl}^-(aq)$ ion? Identify the product of the oxidation.

(e) Which solution would be the least effective conductor of electricity? Explain.